



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

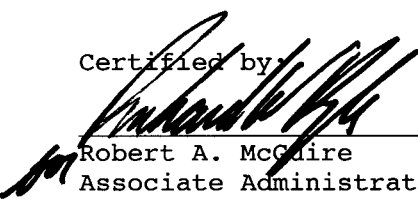
**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0192/S, REVISION 5**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - Isomedix Model No. ISO-1000, manufactured prior to June 30, 1998.
2. Source Description - The source is a welded double encapsulation constructed of Type 304L stainless steel. Outer dimensions are 1.26 cm (0.497 in) diameter and 21.13 cm (10.68 in) length. Construction is to be in accordance with Union Carbide Corporation Drawing No. C-SK1887 (attached).
3. Radioactive Contents - Not more than 26.64 TBq (720 Ci) of Cesium-137 as cesium chloride powder, per capsule.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires July 31, 2008.

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated February 13, 2003 submitted by MDS Nordion Inc., Kanata, Ontario, Canada, and in consideration of other information on file in this Office.

Certified by:


Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

JUN - 9 2003

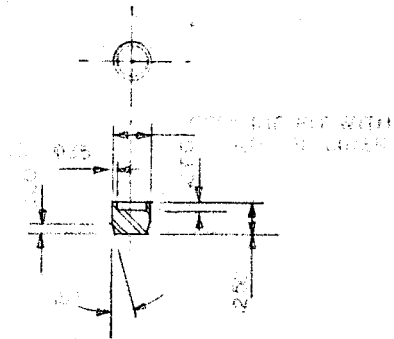
(DATE)

Revision 5 - Issued to extend the expiration date.

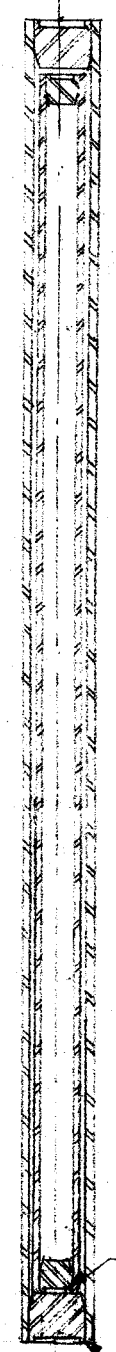
1 "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

2 Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

SQUAD CHECK								REVISIONS				FINAL ASS'Y.		
EC	EE	EM	IE	MA	MD	PE	REV.	ZONE	DESCRIPTION	DATE	BY	APP'D		
							1	3-A	REMOVE TAPPED CAPSULE PLUG	12-8-79	C.S.	SEG		
							2	1-D	REVISED NOTES	1-11-80	CS	SEG		



LINE 1-2013
MATERIAL 1041 1041 1041
AS ON A 276
C. H. R. D.



- NOTES:
1. FABRICATION SHOP TO WELD ONE LINER AND ONE CAPSULE PLUG PER WPS-307.
 2. MACHINE ANY WELD OVERLAP FROM OUTER CAPSULE.
 3. CENTERLESS GRIND OUTER CAPSULE O.D. TO $.497 \pm .002$
 4. SHOP FABRICATED OUTER CAPSULE TO BE STRAIGHT WITHIN 0.010 T.I.R. AND ROUND WITHIN 0.005 T.I.R. OVER ENTIRE LENGTH.
 5. HELIUM LEAK TEST BY METHOD SENSITIVE TO 1×10^{-7} cc/sec.

MECHANICAL QUALITY ASSURANCE DOCUMENTATION REQUIREMENTS	
* DETAILS IN DRAWINGS, BAPP, ETC.	QA LEVEL
QA PROGRAM PLAN NO.	
1 MATERIAL MILL CERTIFICATION	X
2 UCC-ND MATERIAL INSPECTION REPORTS	
3 DEVIATION REPORTS	X
4 SHOP MANUFACTURING AND INSPECTION PLAN	
5 CONSTRUCTION AND INSPECTION PLAN	
6 MATERIAL/PART TRAVELER	
7 WELD AND/OR BRAZE INSPECTION REPORTS	X
8 HEAT TREAT REPORT WITH T-T CHART(S)	
9 DIMENSIONAL INSPECTION AND REPORTS**	X
10 PRESSURE TEST REPORTS	
11 LEAK TEST REPORTS	X
12 CLEANING REPORTS	
13 NONCONFORMANCE REPORTS	X X
14 FUNCTIONAL TEST REPORTS	
15 COMPLETED ITEM CERTIFICATE OF COMPLIANCE	
16	
17	

**INSPECTION SYMBOL LEGEND
 (X) RECORD ACTUAL DIM. (IN OR OUT OF TOLERANCE)
 (X) RECORD OUT OF TOLERANCE DIM. ONLY (RECORD IN TOL. DIM.)

William R. Smith 12-11-79
 DATE

TOLERANCES* UNLESS OTHERWISE SPECIFIED		DESIGN	11-020-79	DES	<div>UNION CARBIDE</div> UNION CARBIDE CORPORATION • NUCLEAR DIVISION operated for the ATOMIC ENERGY COMMISSION under U.S. GOVERNMENT contract W 7405 eng 26 Oak Ridge, Tennessee	<div>137</div> CS SOURCE (ISO-1000)				TYPE CLASS	
DRAWN		12-10-79	C. Smith								
CHECKED		1-16-80	RWS								
SECTION											
DEPT.											
DIVISION											
OPERATOR											
EQ. T & I/MID											
SAFETY											
FIRE PROT.											
NUC. SAFETY											
AIR & WATER POLL. CONTR.											
1909											
2											

1	48	49	50	SCALE: FULL	SHEET	OF	CLASS
PLANT				BLDG.	FL. SHOP	C - SK1587	
						REV.	2

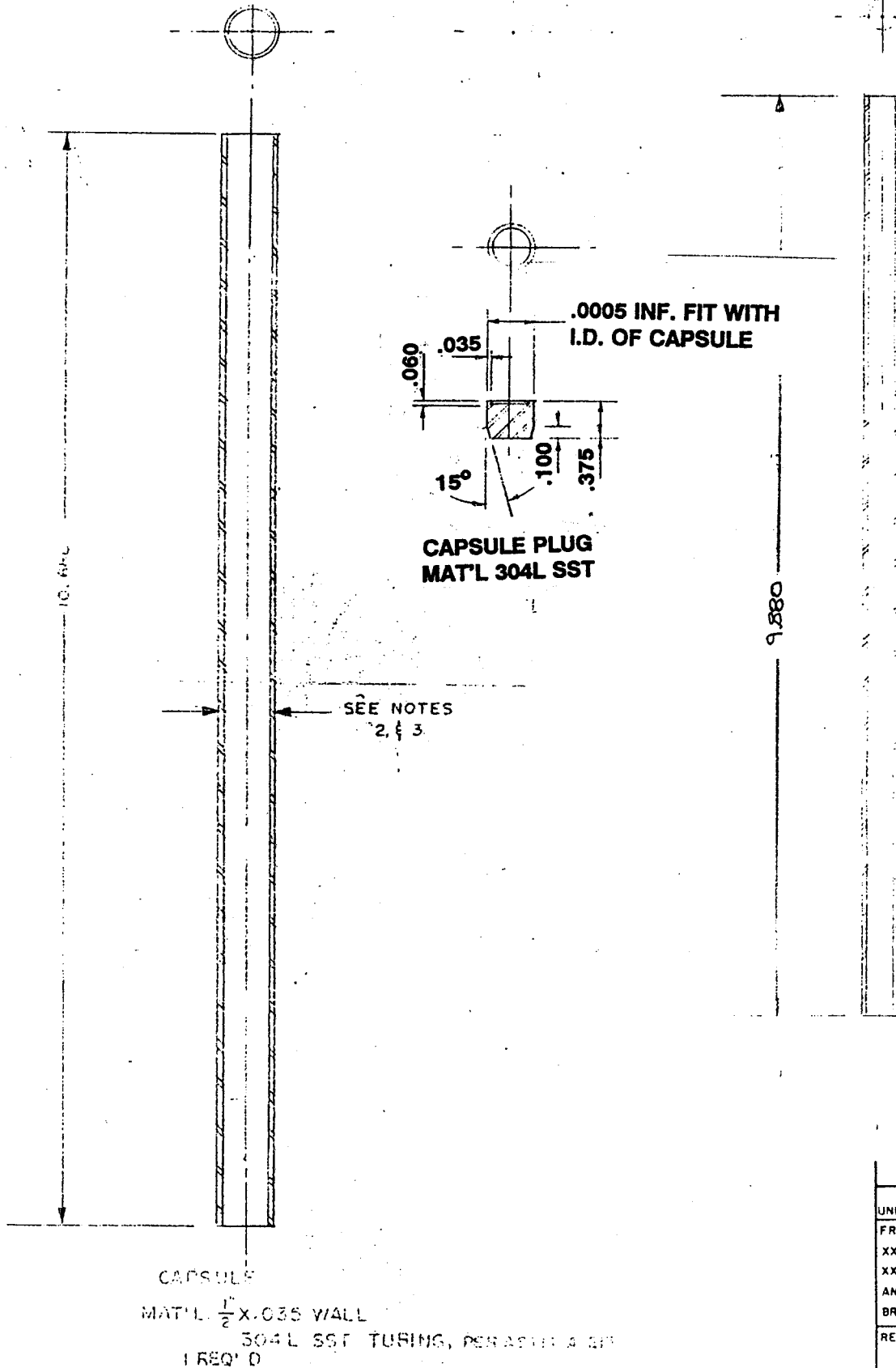
SC			
CA	CP	EC	

D

C

B

A



TOLERANCES UNLESS OTHERWISE	
FRACTIONS	
XX DECIMALS	
XXX DECIMALS	±
ANGLES	±
BREAK SHARP EDGES	
REFERENCES:	
C S K 1009	
ORDER NO	
W. O.	
B. M. No	

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